

MT9J003I12STCVH-GEVB

MT9J003 Evaluation Board User's Manual



ON Semiconductor®

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EVAL BOARD USER'S MANUAL



Figure 1. MT9J003 Evaluation Board

Evaluation Board Overview

The evaluation boards are designed to demonstrate the features of ON Semiconductor's image sensors products. This headboard is intended to plug directly into the Demo 2X system. Test points and jumpers on the board provide access to the clock, I/Os, and other miscellaneous signals.

Features

- Clock Input
 - ♦ Default – 10 MHz Crystal Oscillator
 - ♦ Optional Demo 2X Controlled MCLK
- Two Wire Serial Interface
 - ♦ Selectable Base Address
- Parallel Interface
- HiSPi (High Speed Serial Pixel) Interface
- ROHS Compliant

Block Diagram

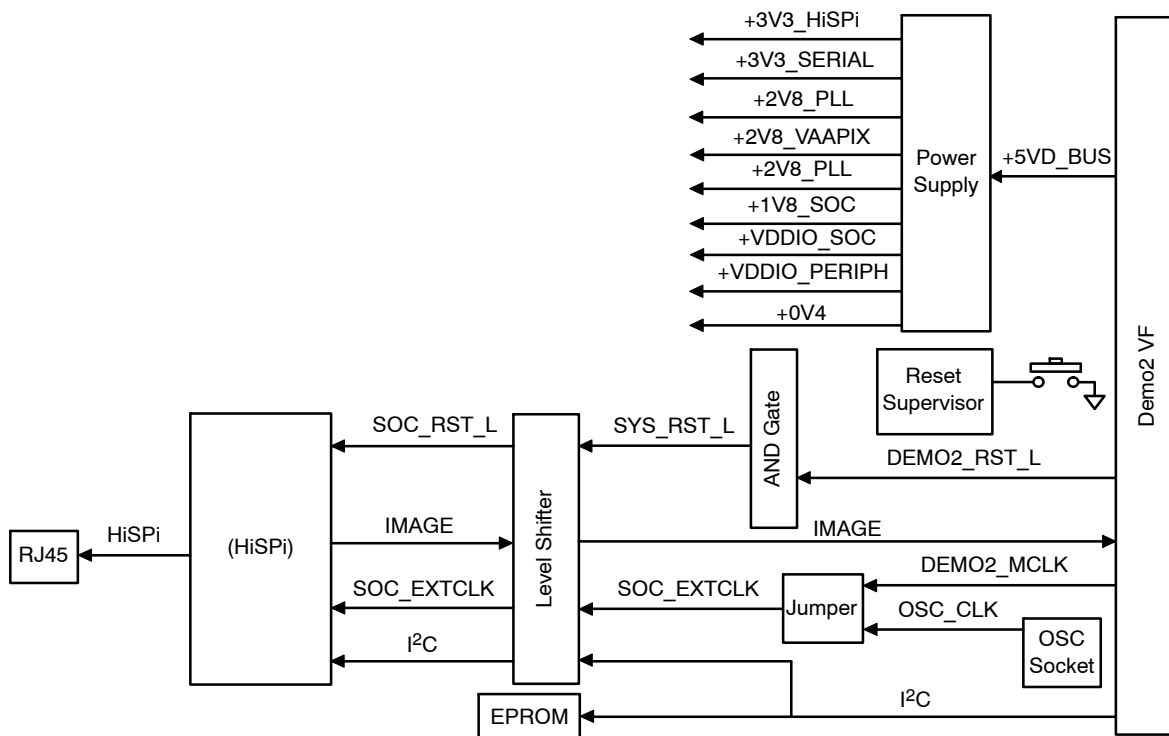


Figure 2. Block Diagram of MT9J003I12STCVH-GEVB

MT9J003I12STCVH-GEVB

Top View

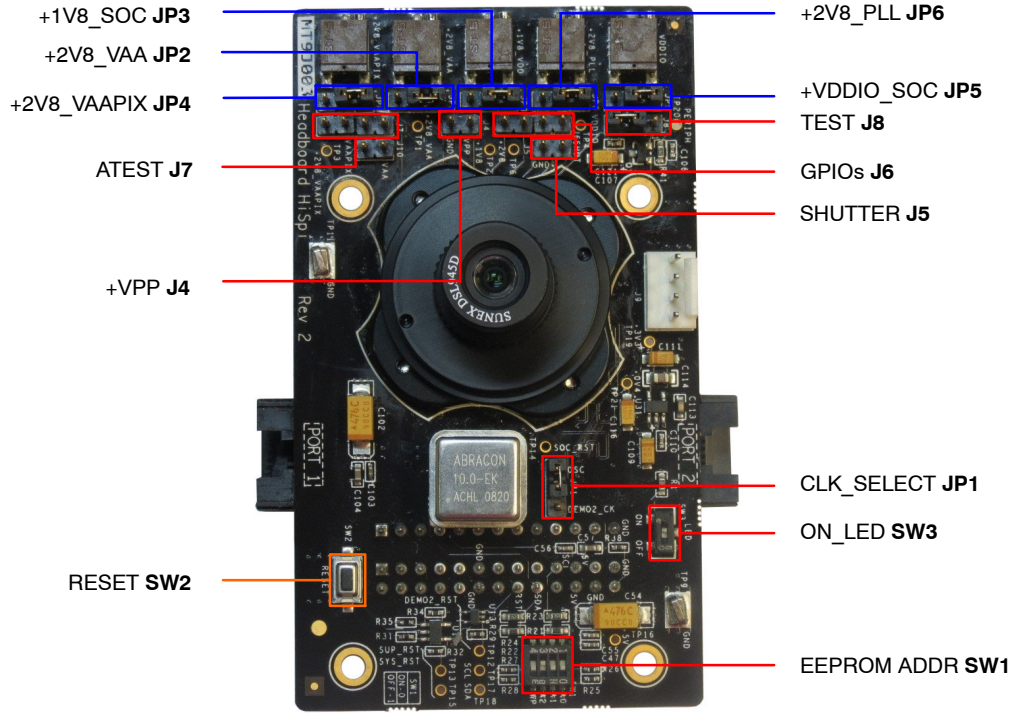


Figure 3. Top View of Evaluation Board – Default Jumpers

Bottom View

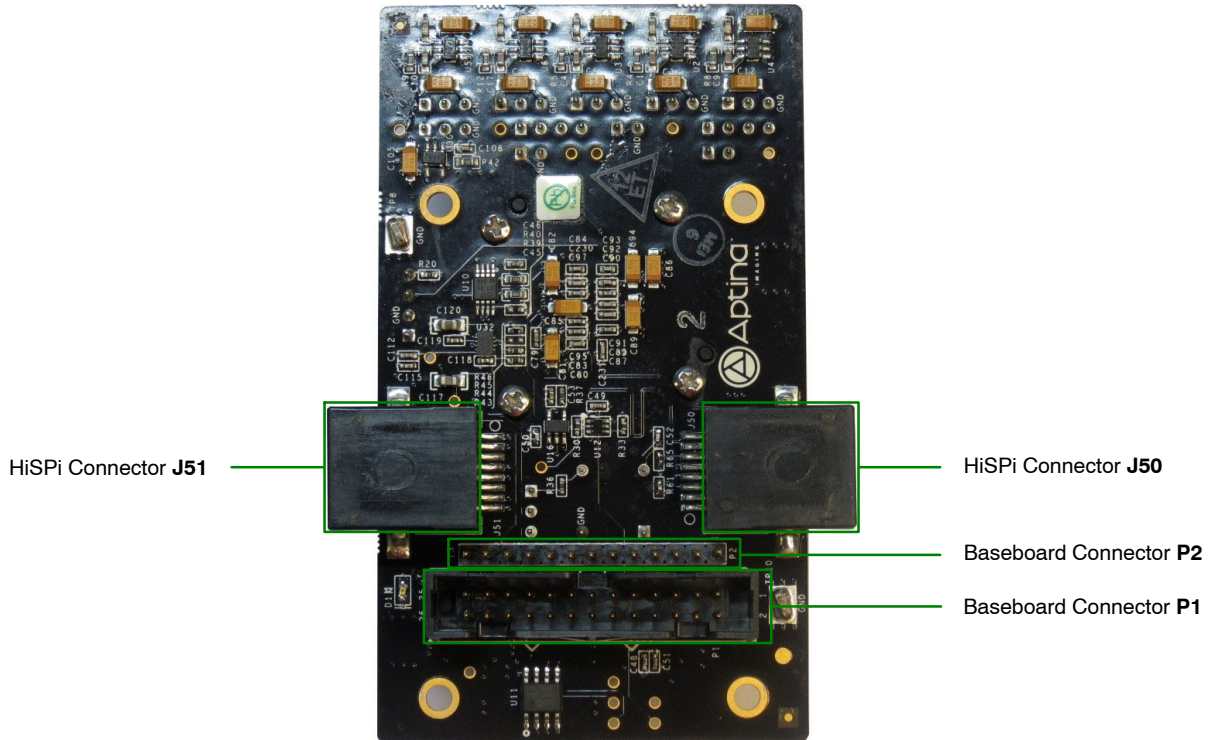


Figure 4. Bottom View of the Evaluation Board – Connectors

Jumper Pin Locations

The jumpers on headboards start with Pin 1 on the leftmost side of the pin. Grouped jumpers increase in pin size with each jumper added.

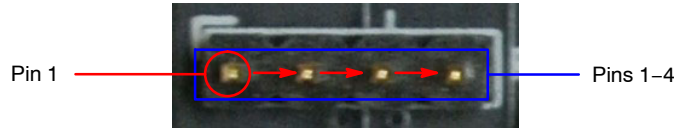


Figure 5. Pin Locations for a Single Jumper.
Pin 1 is Located at the Leftmost Side and Increases as it Moves to the Right

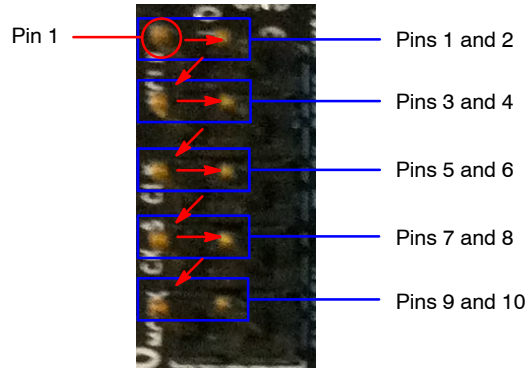


Figure 6. Pin Locations and Assignments of Grouped Jumpers.
Pin 1 is Located at the Top-Left Corner and Increases in a Zigzag Fashion Shown in the Picture

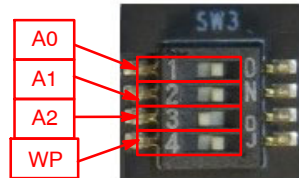


Figure 7. EEPROM Switches in their Defaults Positions. The First Switch (A0) of SW1 is ON, the Second Switch(A1) is ON, the Third switch (A2) is OFF, and the Fourth Switch (WP) is ON

Jumper/Header Functions & Default Positions

Table 1. JUMPERS AND HEADERS

| Jumper/Header No. | Jumper/Header Name | Pins | Description |
|-------------------|--------------------|---------------|---|
| JP1 | CLK_SELECT | 1-2 (Default) | Connects to on-board oscillator |
| | | 2-3 | Connects to external clock from Demo 2X board |
| JP2 | +2V8_VAA | 1-2 (Default) | Connects to on-board +2V8_VAA power supply |
| | | 2-3 | Connection to external power supply |
| JP3 | +1V8_SOC | 1-2 (Default) | Connects to on-board +1V8_SOC power supply |
| | | 2-3 | Connection to external power supply |

Table 1. JUMPERS AND HEADERS (continued)

| Jumper/Header No. | Jumper/Header Name | Pins | Description |
|-------------------|--------------------|---|--|
| JP4 | +2V8_VAAPIX | 1–2 (Default) | Connects to on-board +2V8_VAAPIX power supply |
| | | 2–3 | Connection to external power supply |
| JP5 | +VDDIO_SOC | 1–2 (Default) | Connects to on-board +VDDIO_SOC power supply |
| | | 2–3 | Connection to external power supply |
| JP6 | +2V8_PLL | 1–2 (Default) | Connects to on-board +2V8_PLL power supply |
| | | 2–3 | Connection to external power supply |
| J4 | +VPP | Open (Default) | Connects to external +VPP power supply for OTPM |
| J5 | SHUTTER | Open (Default) | Connects to external shutter |
| J6 | GPIOs | Open (Default) | Connects to various sensor's settings |
| J7 | ATEST | Open (Default) | For debug/test |
| J8 | TEST | 2–3 (Default) | Normal operation |
| | | 1–2 | Test mode |
| SW1 | EEPROM ADDR | P24 Open, P23 Closed, P27 Closed (Default) | EEPROM Address set to 0xA8 |
| | | P24 Open, P23 Open, P27 Closed | EEPROM Address set to 0xAC |
| | | P24 Closed, P23 Open, P27 Closed | EEPROM Address set to 0xA4 |
| | | P24 Closed, P23 Closed, P27 Closed | EEPROM Address set to 0xA0 |
| SW2 | RESET | N/A | When pushed, 200 ms reset signal will be sent to MT9J003 |
| SW3 | ON_LED | On (Default) | Turns on +5V LED indicator |
| | | Off | Turns off +5V LED indicator |

Interfacing to ON Semiconductor Demo 2X Baseboard

The ON Semiconductor Demo 2X baseboard has a similar 26-pin connector and 13-pin connector which mate

with P1 and P2 of the headboard. The four mounting holes secure the baseboard and the headboard with spacers and screws.

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